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Organoleptic Assessment of Cream Soup Formulation "KRIMERA" as a Functional Food Alternative for Anemia Adolescents

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Abstract. Anemia is a condition in which the number of red blood cells or the concentration of oxygen carriers in the blood (hemoglobin) in the body is insufficient for physiological needs. Hemoglobin itself functions to help red blood cells to get their natural shape, which is round with a flat center. Anemia is a condition where the body does not have enough iron reserves, so there is a shortage of iron distribution to the body's tissues. Based on the results of Riskesdas in 2018, the prevalence of anemia in Indonesia is still relatively high at 48.9%. This study aims to make functional food alternatives for adolescents with anemia by using raw red bean and brown rice materials to manufacture cream soup and to find out the organoleptic, preferred formulation, nutrient and iron contribution. The method used in this study is an experimental method with a RAL (Complete Random Series) research design with two repetitions and as many as eight experimental units with four formulas with comparisons in the use of red beans and brown rice F0 (0%: 13%), F1 (10.4%: 2.6%), F2 (9.1%: 3.9%), and F3 (7.8%: 5.2%). The results of the most preferred red bean and brown rice cream soup formulation product based on the overall parameter with the highest value is the first formulation (F1) with a value of 4.10. This value is higher than the F0 value of 3.87, so this product can be used as an alternative functional food for anemia sufferers.

Keywords: Anemia, brown rice, red beans, teenagers, cream soup

INTRODUCTION

Anemia is a condition in which the number of red blood cells or the concentration of oxygen carriers in the blood (hemoglobin) is insufficient for physiological needs. Hemoglobin helps red blood cells get their natural shape, which is round with a flat center. Anemia is a condition in which the body does not have enough iron reserves, so there is a shortage of iron distribution to the body's tissues (Dieny, 2021).

The World Health Organization (WHO) states that two billion people in the world are affected by anemia. With the criteria of mild anemia 9-10 gr%, moderate anemia 7-8 gr%, and severe anemia ≤ 7 gr%, as for those affected by anemia whose hemoglobin (Hb)

level in the blood is less than 13 gr%, and for men whose normal value is 13-17 gr%, and for and for women less than 12 gr%, with an average value of 12-15 gr% (Misra & Mariah, 2019). The results of the Indonesian National Health Survey (Riskesdas) in 2013 show that the prevalence of anemia in adolescents aged 15-24 years is 37.1% (Ministry of Health of the Republic of Indonesia, 2013). The results of Riskesdas data in 2018 showed that the prevalence of anemia cases in Indonesia in 2018 was 48.9%. Based on the results of the 2018 Riskesdas, it can be concluded that there is an increase in the proportion of anemia in adolescents by around 11.8% (Ministry of Health of the Republic of Indonesia, 2018).

Mairita, Arifin, and Fadilah's (2018) research explains that the causes of anemia can be divided into two types. The first cause is leading cause of anemia is a decrease in hemoglobin levels in the blood or a disorder in the formation of red blood cells in the body. The second cause is a significant decrease in red blood cells due to excessive destruction of red blood cells or due to bleeding. Conditions that can affect the formation of hemoglobin in the blood, namely malignant effects such as cancer, radiation from drugs and toxic substances, as well as the existence of chronic diseases involving disorders of the kidneys and liver, infections, and endocrine hormone deficiency (Vidayati et al., 2020). The high incidence of anemia in adolescents is caused by several factors, including low intake of iron and other nutrients such as A, C, Folate, Riboflavin, and B12, errors in consuming iron, for example consuming iron along with other substances that can interfere with the absorption of these nutrients (Julaecha, 2020).

According to Torres (2017), anemia deficiency has a long-term and short-term impact on adolescents if not treated immediately. Adolescents will experience a decrease in study concentration and a decrease in immunity to a disease, affecting physical fitness and productivity. Anemia causes symptoms such as weakness, tiredness, and lethargy that can be felt by the body, but it is considered normal because of the many activities carried out by adolescents.

Other impacts of anemia can also inhibit motor, mental, and intellectual development and interfere with the growth process (Angraeni, 2022). The impact of anemia can affect the quality of human resources related to children's intelligence or the ability to understand the surrounding situation, think rationally, and use existing resources effectively to face a challenge (Kusmiyati et al., 2013).

WHO recommends that efforts to control anemia in adolescents be focused on

promotion and prevention activities. These efforts can involve increasing iron intake through a food-based approach, namely by food diversification or fortification with iron, iron supplementation, and improving health and sanitation services (WHO, 2011).

Functional food is a food or food component that provides nutrients that are important for the body to maintain normal growth or development. Functional foods contain bioactive substances that can improve health or provide the desired physiological effects and have a good taste and texture to consume (Amir, 2019). Functional food is a food (not pills, capsules, or flour) that comes from natural ingredients. It can and should be consumed as part of the daily diet and has the function that when ingested it can help the ventilation of certain processes in the body, such as enhancing biological defense mechanisms, preventing certain diseases, curing specific diseases, controlling physical and mental conditions, and inhibiting aging (Triandita *et al.*, 2020)

According to the Ministry of Agriculture, red beans (*Phaseolus vulgaris L.)* are a type of peanut that is widely cultivated in Indonesia, with a total production of 100,316 tons in 2014 (Kusnandar *et al.*, 2020). 100 grams of red beans contain 314 calories, 22.1 grams of protein, 1.1 grams of fat, 56.2 grams of carbohydrates, and 10.3 mg of iron (Ministry of Health of the Republic of Indonesia, 2020). Red beans also contain minerals (such as vitamins A and B1), and bioactive components such as flavonoids and phytosterols (Kusnandar *et al.*, 2020). There is a study on the increase in the average hemoglobin level after giving red bean juice to a group of anemic pregnant women. Where before the administration of red bean juice, an average hemoglobin of 10.2 gr/dl was obtained, and after the administration, it was 11 gr/dl (Jamil et al., 2023).

Rice is the world's staple food, consumed by almost half of the world's population, and is able to provide more than 20% of the world's caloric needs each year. Rice is one of the staple foods consumed by the majority of Indonesian people. Some pigmented rice, namely red, black, and purple rice, has pigments or dyes in the form of anthocyanins and proanthocyanidins in the aleuron layer (Fitriyah, Ayu U and Puspita, 2021). The nutritional content in 100 grams of brown rice is protein 7.5 grams, iron 0.3 grams, fat 0.9 grams, calcium 16 milligrams, carbohydrates 77.6 grams, phosphorus 163 milligrams and thiamin 0.21 milligrams (Indriyani et al., 2013).

Cream soup is a soup that is thickened with a thickener plus milk or cream. Instant cream soup is a processed food product of vegetable and animal flour, with other food

additives and or without permitted food additives, which are ready for consumption after brewing or cooking with boiling water into a thick solution. Instant products must be packaged in tightly sealed containers, not affected or affect the contents, safe during storage and removal (SNI, 1999)

The author observed that many cream soup products are commercialized either as instant powder or ready-to-eat. As many as 76.3% of Level I and Level II students of the DIII Cirebon Nutrition Study Program like cream soup, which proves that teenagers like it. Based on the description above, the author is interested in conducting research on the formulation of cream soup made from red beans (*Phaseolus vulgaris L.*) and brown rice (*Oryza Nivara)* as an alternative food for anemic adolescents.

LITERATURE

Anemia

Anemia is a decrease in erythrocyte mass that causes peripheral tissues to be unable to meet their oxygen needs. Clinically, anemia can be measured by decreasing hemoglobin levels, hematocrit, or erythrocyte counts, but the most commonly used method is testing with hemoglobin levels (Bakta, 2012).

Anemia, or lack of red blood cells, is a condition in which the number of red blood cells or hemoglobin (an oxygen-carrying protein) in red blood cells is below normal. Red blood cells contain hemoglobin, which plays a role in transporting oxygen from the lungs and delivering it to all body parts (Hasdianah & Suprapto, 2016).

According to Damayanti (2017) in (Zaenab, 2020) based on WHO, mild anemia is a condition where Hb levels in the blood are between 8 g/dl – 9.9 g/dl. According to the Ministry of Health of the Republic of Indonesia, mild anemia is a condition in which Hb levels are between Hb 8 g/dl < 11 g/dl. Generally, mild anemia does not cause symptoms because anemia continues slowly so that the body can adapt and keep up with changes. Symptoms of anemia may appear as fatigue, decreased energy, weakness, mild shortness of breath, palpitations, and paleness.

According to WHO, severe anemia is a condition in which the Hb level in the blood is below < 6 g/dl. Based on the Ministry of Health of the Republic of Indonesia, severe anemia is when the Hb level is below < 5 g/dl. Signs or symptoms that appear in people with severe anemia, namely: Damayanti (2017) in (Zaenab, 2020). Changes in the color of the stool, black, sticky, and foul-smelling stools, maroon in color, or appear to bleed due to blood

loss through the digestive tract; Rapid pulse; Low blood pressure; Rapid respiratory rate; Pale or cold skin; Yellow skin that can be called *jaundice* anemia due to damage to red blood cells; Murmur of the heart; Enlarged spleen with specific causes of anemia

Adolescent

Adolescence is a transitional phase between childhood and adulthood, during which various kinds of changes occur biologically, intellectually, psychosocially, and economically. In this phase, individuals have reached sexual and physical maturity, and they have developed good reasoning and the ability to make decisions related to education and occupation (Diorarta & Mustikasari, 2020).

According to (WHO, 2022) adolescence is a phase between children and adults in the age range between 10 – 19 years. Then the Brief Note of the Demographic Institute of FEB UI (2020) in (Rany, 2022) said that adolescents are residents in the age range of 10 to 18 years old, this is stated in the Regulation of the Minister of Health of the Republic of Indonesia No. 25. The National Population and Family Planning Agency (BKKBN) states that adolescents are unmarried individuals with an age range of 10 – 24 years, which can be interpreted as adolescents are a transition period from children to adults.

The number of adolescent age groups in the world is 1.2 billion, or around 18% of the total population in the world (WHO, 2022). Based on the results of the population census conducted by the Central Statistics Agency (BPS), Indonesian population data in 2019 amounted to 268,074.6 million people with a prevalence of adolescents in the age range of 10 – 19 years of 45,351.3 million people with a percentage of 16.9% (BPS, 2020).

Iron

Iron is the most abundant micromineral found in the human body, and it is as much as 3-5 grams in the adult human body. Iron itself has an essential function in the body, namely as A means of transporting oxygen from the lungs to the body tissues, a means of transporting electrons in cells, and an integrated part of various enzymes in body tissues. (Almatsier, 2016)

Iron is a micronutrient that the body needs, in general, iron can be found in plant foods (non-heme) and animal foods (heme). Plant foods (non-heme), such as beans and vegetables, have a lower proportion of absorption compared to animal foods (heme), such as meat, eggs, and fish (Bakta, 2012).

Good sources of iron are animal foods such as meat, chicken, fish, eggs, nuts, green

vegetables, and some fruits. In consuming foods that contain iron, it is necessary to pay attention to the combination of daily foods so that iron absorption becomes more optimal. The meal menu in a day should consist of carbohydrates, animal protein, nuts, vegetables, and fruits that contain vitamin C (Almatsier, 2016). The level of iron absorption into the body can be affected by the type of food that is a source of iron. Iron from animals can be absorbed by the body as much as 20% to 30%, while iron from plants can only be absorbed by the body as much as 5% (Rahayuningsih, 2021).

In addition to the amount of iron, it is also necessary to pay attention to the quality of iron in food, which is called bioavailability. Iron in meat, chicken, and fish generally have high biological availability, cereals and legumes have moderate biological availability, and spinach vegetables contain high oxalic acid and have low biological availability (Almatsier, 2016).

The recommended daily iron requirement based on the Regulation of the Minister of Health of the Republic of Indonesia No. 28 of 2019 is as follows:

Table 1. Iron Requirement (AKB)

Age	Law Law	Woman
10-12 years	8 mg	8 mg
13-15 years	11 mg	15 mg
16-18 years	11 mg	15 mg
19-29 years	9 mg	18 mg

Source: Research Data

Iron deficiency is the most common problem encountered in vulnerable groups. It can affect the quality of human resources, namely learning ability and work productivity. There are three stages in iron deficiency, namely:

1. The first stage occurs when iron deposits are reduced, as seen in a decrease in ferritin in plasma to 12 ug/L. This is compensated by an increase in iron absorption, as seen in an increase in Total Iron *Binding Capacity*. At this stage, no functional changes have been seen in the body.
2. The second stage is seen with the depletion of iron deposits, a decrease in ransfern saturation to less than 16% in adults, and an increase in protoporphyrin, the precursor form of hemp. At this stage, the hemoglobin value in the blood is still 95% of the normal value. This can interfere with energy metabolism, which will later cause a decrease in working ability.

3. The third stage is iron nutritional anemia, an event where the total hemoglobin level drops below normal values. Anemia

Heavy iron nutrition is characterized by small red blood cells (*microcytosis*) and low hemoglobin values (*hypochromia*). Iron nutrient anemia is called microcytic hypochromic anemia.

In general, iron deficiency causes a person to become pale, tired, tired, dizzy, lack appetite, decreased body fitness, decreased work ability, decreased immunity, and wound healing disorders; there is a decrease in the body's ability to regulate temperature. If iron anemia occurs in children, it can cause apathy, irritability, and decreased ability to concentrate and learn (Almatsier, 2016).

Cream Soup

Soup is a liquid food made from meat broth, chicken, fish or with the addition of aromatic ingredients, spices and fillings. A thick soup is a soup that is thickened with other ingredients, such as flour, milk, and cream, or with its own ingredients with or without filling (Dewi, 2017).

Figure 1. Sup Krim
Source: https://images.app.goo.gl/DryuGsteadw3d3B68

Cream soup is a soup thickened with thickeners added with milk or cream. Instant cream soup is a processed food product made from vegetable and animal flour, with other food additives and/or without permitted food additives, that is ready for consumption after brewing or cooking in a tightly closed container. The contents are not affected, and the soup is safe during irregularities and transportation (SNI, 1999).

The raw materials of the soup are red beans, brown rice, creamed milk, broth, carrots, celery, garlic, onions, margarine, salt, mrica. Red beans belong to the *Leguminoseae* family or called leguminoseas. Red beans themselves are still part of the same family as mung

beans, soybeans, and tolo beans. Red beans can be easily found throughout Indonesia. The central regions that are red bean producers are West Java, Java Tegah, Yogyakarta, South Sulawesi, Bengkulu and East Nusa Tenggara (Rukmana Dalam (Maisyara, 2018). Red beans are high in protein and carbohydrates. The protein contained in kidney beans can lower bad LDL cholesterol and increase HDL cholesterol, which is good for the body. Red beans also have advantages such as being cholesterol-free, so they are safe to be consumed by all people of various ages (Maisyara, 2018). vitamins (such as vitamins A and B1) and phytosterols. According to Agranoff, *red* beans themselves are not good for consumption in their raw state because they contain anti-nutrient compounds such as phytic acid, hemagglutinin, anti-trypsin, and goitrogen which can inhibit the digestibility of nutrients in the body (Kusnandar *et al.*, 2020). The process that can remove antinutrient compounds is by soaking and boiling (Nanik et al., 2016).

Red beans are included in legumes that have long been known as a source of protein and vitamins that complement cereals, such as rice and wheat. The protein contained in legumes is generally high in *lysine, leucine,* and *isoleucine,* but it has limitations in terms of *methionine* and *cystine* content. This causes nuts to often be combined with cereals with high methionine and cystine but low *lysine* content (Astawan in Purwanto and Hersoelistyorini, 2011). Red beans contain quite high protein and carbohydrates (23.1% and 59.5%), which can be used as a source of nutrition. Red beans contain minerals (such as calcium, phosphorus, and iron); according to Destrivana (Maisyara, 2018) said that red beans have many benefits that need to be known. Here are the health benefits of kidney beans: Supplying energy, kidney beans can increase energy because they are high in iron. Iron is needed to increase metabolism and energy for the body. Red beans can also help blood circulation to the brain. Controlling weight, Red beans can control weight because they can provide a longer feeling of fullness. Keeping blood sugar in check, Red beans are famous for being rich in fiber. This fiber will reduce the metabolic rate of carbohydrate content in nuts. Nutrition for the brain: Red beans have good benefits for the brain because they contain vitamin K, which provides essential nutrients for the brain and nervous system.

Brown rice (*Oryza nivara*) is a type of rice that has a red pigment on almost the entire surface. This red color is due to the presence of anthocyanin content in the pericarp layer to the outermost layer of the rice endosperm (Indrasari et al., 2010). Anthocyanins are phenolic compounds that are included in the flavonoid group that play an important role in the plant itself and are beneficial for human health (Indriyani et al., 2013). (Suliartini *et al.,* 2011) said that the anthocyanin content in brown rice functions as antioxidant,

antimutagenic, hepatoprotective, antihypertensive, and antihyperglycemic (Octaviani *et al.*, 2019). Brown rice is rich in bioactive compounds such as polyphenols and vitamins, including vitamin E, which functions as an antioxidant. The content of brown rice makes brown rice popular as a functional food. The antioxidant activity in brown rice (*Oryza nivara*) has the highest activity of around 95.05% (Azis *et al.*, 2015). Brown rice is a food ingredient free of gluten and cholesterol, so diabetics can consume it as an alternative to wheat. The antioxidants found in brown rice can increase metabolism and prevent colon cancer. The magnesium content, another mineral found in brown rice, can strengthen bones, prevent asthma, and reduce the risk of obesity (Arun et al., 2017).

According to Susilorini and Sawitri, skim milk is the part of milk that is left behind after the cream or head of milk is taken. Skimmed milk is commonly referred to as nonfat milk or fat-free milk. This is because the fat content is very low, a maximum of 1%, but the lactose and protein content is very high, around 49.2% and 37.4%, and the calorie content in skim milk is relatively low. Skimmed milk powder is usually added to a product to add nutritional value and improve taste (Setiawan, 2018).

According to (SNI, 1996) broth is a product obtained from meat or poultry by cooking ingredients rich in protein and water with or without the addition of spices, edible fats, sodium chloride and spices to enhance the taste (Firdamayanti & Srihidayati, 2021).

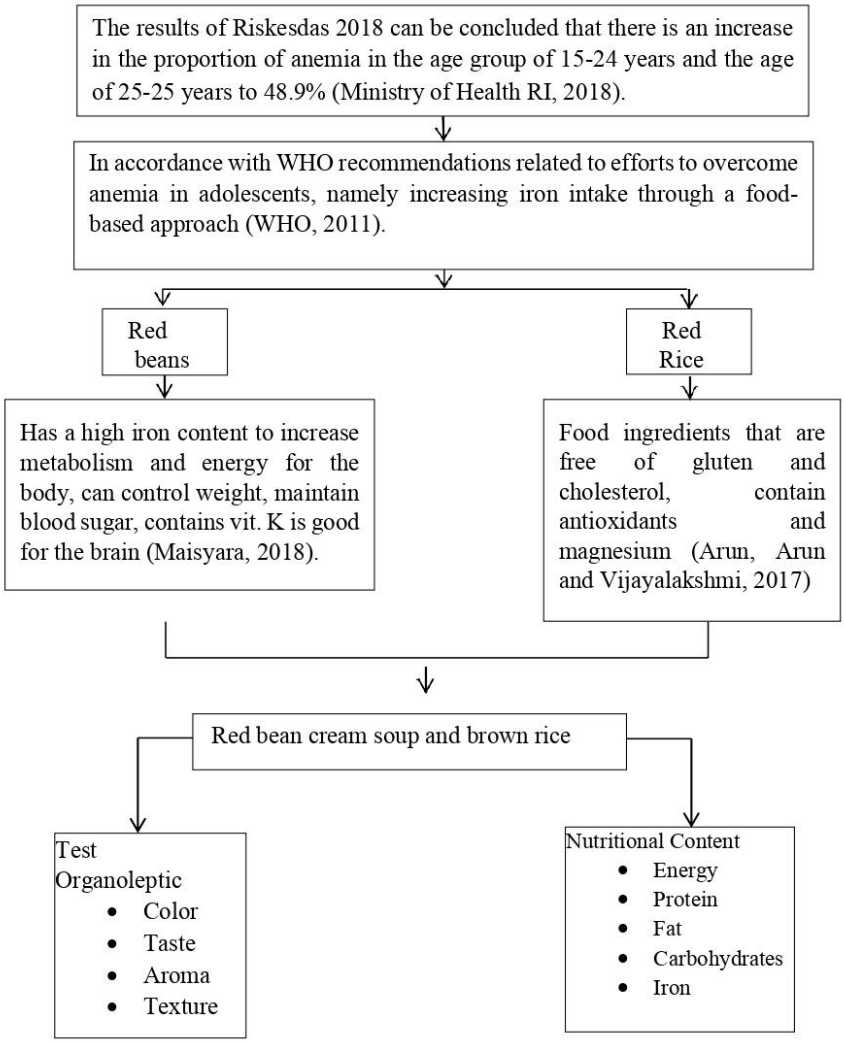
Carrots (*Daucus carota L.*) are included in the Umbelliferae family, which originated in Central Asia and then spread across various regions. This plant is widely grown in sub-tropical climates or in the highlands in the tropics. Carrots are famous for their high vitamin A content in them, which also has other vitamins such as vitamins B and E (Supartari, 2022). According to (Haryoto, 2006) celery (Apium graveolens L.) is a leafy vegetable and medicinal plant that is commonly used as a cooking spice. Celery plants are dicot plants (in two) and are planted in the form of grass or shrubs (Firda, 2018). According to (Haryoto, 2006) celery (Apium graveolens L.) is a leafy vegetable and medicinal plant that is commonly used as a cooking spice. Celery plants are dicot plants (in two) and are plants in the form of grass or shrubs (Firda, 2018). Onion (*Allium fistulosum L.*) is a type of vegetable plant that is used as a flavoring ingredient as well as a frag,rance for dishes and a mixture of various dishes; leeks have a fragrant aroma and give a more delicious delicious taste to dishes. The nutritional value of leeks is also high, so they are liked by almost everyone (Qibtiah and Astuti, 2016). Shallots are a vegetable commodity that farmers

intensively cultivate. This vegetable commodity is included in the group of non-substitution spices that function as food flavoring spices and traditional medicinal ingredients (Satya Wijaya Putra, 2019). Garlic (*Allium sativum L.*) is a root vegetable plant widely grown in various parts of the world. Usually, garlic is used to meet the needs of spices in the kitchen (Fitria, 2018). Margarine is a food product of water *in oil (O/W)* emulsion with a plastic texture. Margarine is often used as a substitute for cooking oil for sautéing or frying foods that don't require a lot of cooking oil. Margarine is a mixture between 80% fat and 15-16% water, with other additions such as flavors, ulcers, dyes, vitamins, and others (Sahri & Idris, 2010 in (Sitorus et al., 2023)). Salt is a salty ingredient used during the cooking of a dish. The salt used in this research is iodized table salt. Sugar is one of the sweeteners used in making cream soup. There are various kinds of sugar sold on the market; for research, the sugar used is granulated sugar. Pepper is a kitchen spice that can increase the taste of food so that food has a slightly spicy taste.

METHOD

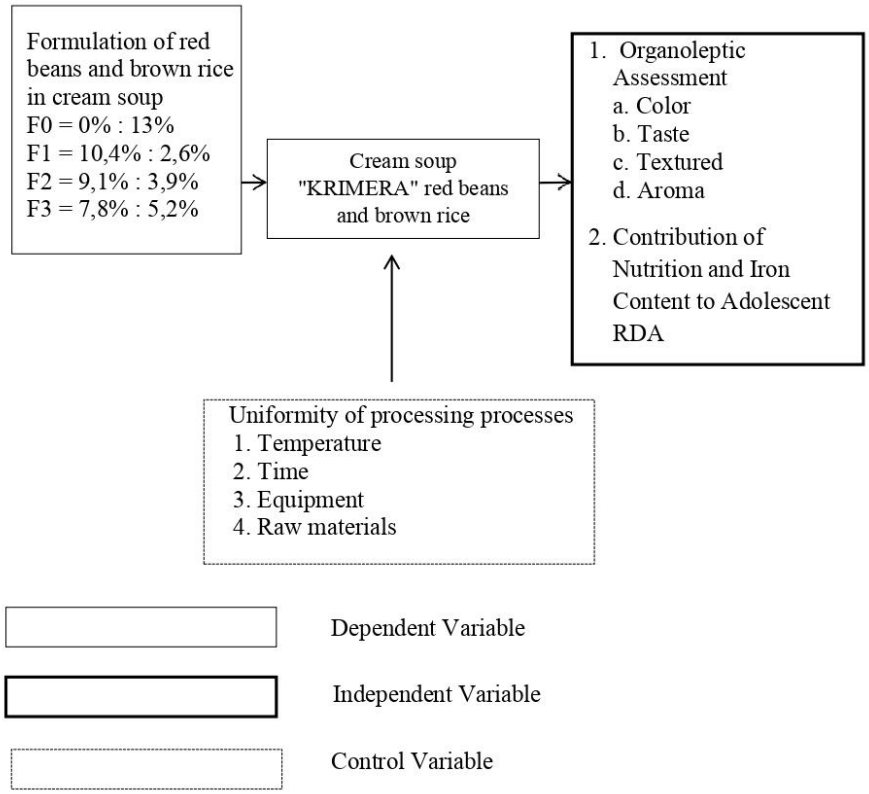
This type of research is experimental research, namely the manufacture of cream soup made from red beans and brown rice with a Complete Random Design (RAL) research design with four formulations and two iterations. The product studied was red bean and brown rice cream soup with a mixed formulation (0%: 13%, 10.4%: 2.6%, 9.1%: 3.9%, 7.8%: 5.2%). Then, the organoleptics were tested by panelists in color, aroma, taste, texture, and the estimated content of nutrients, including energy, protein, fat, carbohydrates, and iron.

The research design for organoleptic tests used a Complete Randomized Design (RAL). There were 4 (four) treatments (including control) and 2 (two) repetitions, for a total of 8 trials. The test that was carried out in this study was an organoleptic test that assessed red bean cream soup and brown rice. The parameters assessed by the panelists include color, aroma, texture, taste, and overall to determine the best product. The organoleptic assessment scale in the assessment that has been carried out is 1 "very dislike," 2 "dislike," 3 "ordinary," 4 "like," and 5 "really like." The organoleptic assessment was carried out by 30 instead trained panelists consisting of level II and level III DIII Cirebon Nutrition Study Program students who had undergone the screening process. The organoleptic test was carried out on December 27, 2023, at the DIII Nutrition Study Program campus in Cirebon.



Schema 1. Research Frameworks

Source: (Kemenkes RI, 2018), (WHO, 2011), (Maisyara, 2018), (Arun, Arun and Vijayalakshmi, 2017).



Schema 2. Framework of Concept

DISCUSSION

The results of the calculation of the contribution of nutrition and iron (Fe) of KRIMERA cream soup per 100 grams for adolescents aged 10 – 24 years were obtained as a result of energy contribution of 5.73%, protein 9.8%, fat 3.33%, carbohydrate 6.42%, and iron (Fe) 21.9%. SNI in 1999 stated that the characteristics of a good cream soup are those that contain at least 10% protein and at least 5% fat; this shows that the protein in KRIMERA cream soup is sufficient, but fat is still insufficient as a characteristic of cream soup. The energy contribution per 100 grams of KRIMERA cream soup in adolescent boys aged 10 – 24 years is 4.80% - 6.37%, and in adolescent girls aged 10 – 24 years is 5.66% - 6.70%. The average contribution of energy nutrition for adolescent boys and girls was 5.73%. Protein contribution per 100 grams of KRIMERA cream soup in adolescent boys aged 10 – 24 years is 8.13% - 12.20%, and in adolescent girls aged 10 – 24 years is 9.38% - 11.09%. The average protein nutritional contribution of adolescent boys and girls was 9.80%. The contribution of fat per 100 grams of KRIMERA cream soup in adolescent boys aged 10 – 24 years is 2.8% - 3.6%, and in adolescent girls aged 10 – 24 years is 3.4% - 3.6%. The

average contribution of fat nutrition of adolescent boys and girls was 3.33%. The contribution of carbohydrates per 100 grams of KRIMERA soup in adolescent boys aged 10 – 24 years is 4.97% - 7.13%, in adolescent girls aged 10 – 24 years is 5.94% - 7.64%. The average carbohydrate nutritional contribution of adolescent boys and girls was 6.42%. The contribution of iron (Fe) per 100 grams of red bean and brown rice cream soup in adolescent boys aged 10-24 years is 21.8% - 30%, in adolescent girls aged 10-24 years is 13.3% - 30%. The average contribution of iron (Fe) for adolescent boys and girls was 21.9%.

CONCLUSION

The best formulation is determined based on the average result of the highest overall value, namely the first formulation (F1) with a comparison of red beans and brown rice of 10.6 grams: 2.6 grams obtained an average yield value of 4.10. The estimated nutritional content in F1 per 100 grams is 127.5 calories of energy, 6.1 grams of protein, 2.4 grams of fat, 21.4 grams of carbohydrates, and Fe nutrients 2.3 mg.

The nutritional content of red bean cream soup and brown rice in the first formulation (F1) per 100 grams can contribute nutrients for adolescents 10 – 24 years old, namely 5.73% energy, 9.8% protein, 3.33% fat, 6.42% carbohydrates, and 21.9% iron (Fe). The author suggests that the texture of red bean and brown rice cream soup products be made softer by doing a smoothing process and then filtering.

1. For the next study, the author suggested conducting a nutrient content test in the laboratory to make the results more specific. Then pay attention to metal contamination and microbial contamination so that it is included in the characteristics of a good cream soup.
2. When making red bean and brown rice cream soup, it is best to add gradually crushed brown ricely so that it does not clump.
3. Sautéing ingredients should be done using non-stick Teflon so that when sautéing the sugar does not burn.
4. Red bean cream soup and brown rice soup products are recommended for adolescents aged 10 – 24 years, especially those who experience anemia, can be consumed as an interlude food as much as 100 grams to meet the needs of nutrients and iron for interlude in a day.

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